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Report To The Congress

OF THE UNITED STATES

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ORIGINAL

Electricity Planning--Today's Improvements Can Alter Tomorrow's Investment Decisions

States have the primary responsibility for regulating utilities and overseeing their plans for balancing electricity supply and demand. However, GAO found that most State regulatory agencies are not well prepared to deal with the new power planning challenges, and some utility forcasting capabilities could be expanded. The Department of Energy recognizes it has the authority to assist in improving State and utility planning practices. However, officials have been hesitant to act because electricity planning is considered a State and utility function, and Federal legislation does not require the Department of Energy to provide assistance in these areas.

Timely Federal assistance is needed. Today's planning decisions--good or poor--will have an impact for decades on meeting the Nation's need for electric power at the lowest economic, environmental, and social costs to consumers, consistent with national energy objectives. The States' role in the review and approval of utility electricity plans should be supplemented and strengthened.

GAO recommends that the Department of Energy undertake a unified and coordinated planning role focusing on improving State and utility electricity planning practices.

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COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

ELECTRICITY PLANNING--TODAY'S IMPROVEMENTS CAN ALTER TOMORROW'S INVESTMENT DECISIONS

D I G E S T

Forecasts project that the national demand for electricity could require electrical generating capacity to more than double by the end of this century. (See p. 1.)

Although States have the primary responsibility for regulating electric utilities and overseeing their plans for balancing power supply and demand, GAO found through use of a questionnaire that most States are not well prepared to deal with power planning under changing conditions and few have developed sufficient analytical capabilities to evaluate these projections. GAO learned that some utility forecasting capabilities could be expanded to use better available methods which deal more explicitly with uncertainty and other key factors, such as price and conservation. (See p. 19.)

Electric utilities are planning to meet future growth primarily by constructing nuclear and coal-fired plants. Implementing these plans will tie up enormous amounts of capital--perhaps as much as $333 billion through 1989. (See p. 15.) Investments in generating facilities can be slowed and power costs reduced by improving the quality of electric power planning and implementing alternatives stressed in the National Energy Plan such as conservation and renewable energy sources.

States which have taken a closer look at utility forecasts have identified deficiencies and have developed significantly different estimates of future power needs from their utilities. (See p. 21.) Most of the States, however, continue to rely heavily on utility forecasts and to approve utility investment decisions with minimal scrutiny of forecasting practices and assumptions.

Most States lack assurance that the full range of power supply/demand options--particularly alternatives such as conservation,

load management, cogeneration, and renewable energy sources--are thoroughly studied and implemented when more cost-effective than conventional nuclear or coal-fired plants. Actions by most States do not assure consumers that their future power needs will be met at the lowest economic, environmental, and social costs. (See p. 25.) Utilities presently have little positive economic or regulatory incentive to promote energy conservation, solar, and other renewable energy options. While many of the States were dissatisfied with utility progress in implementing these options, few States had developed new incentives to encourage greater utility involvement. (See p. 33.)

FEDERAL EFFORTS NOT DIRECTED TO IMPROVING ELECTRICITY PLANNING

The Department of Energy (DOE) recognizes it has the authority to assist States and utilities in improving the quality of State, regional, and utility power plans. No Federal energy agency has assumed such a responsibility. DOE officials recognize that serious problems exist in demand forecasting, assessment of feasible alternatives, and public involvement, but they have not taken an aggressive approach to solve these problems. DOE officials advised us that they have been hesitant to act because (1) electricity planning is considered a State and utility function and (2) Federal legislation does not require DOE to assist States and utilities in these areas. (See p. 38.)

Federal responsibilities relating to electric power are fragmented and involve several energy agencies. Few of the programs implemented by these agencies are specifically designed to improve electricity planning, although many of them can impact on the planning function. Federal electricity programs are not coordinated through a set of common objectives, policies, or evaluation systems. Under these conditions, there is inadequate assurance that Federal efforts are responsive to the planning needs of electric utilities, State utility regulators, and power consumers.

Electric utilities, States, regions, and Federal Government agencies should work together to improve electric power planning and decisionmaking.

The Federal Government should work to supplement and strengthen, not subordinate, the State's role in the review and approval of utilities' electricity plans.

RECOMMENDATIONS TO THE SECRETARY OF ENERGY

The Secretary of Energy has the authority to undertake a unified and coordinated planning role focusing on improving State and utility planning practices and should be taking actions to assure that the Nation's need for electric power is met at the lowest economic, environmental, and social cost, and in a manner consistent with national energy policies.

Therefore GAO recommends the Secretary of Energy:

--Establish in the Economic Regulatory Administration (ERA) a responsibility center to coordinate all DOE efforts relating to improving electric power planning. (See p. 47.)

--Direct the Administrator of ERA to develop, with input from other DOE offices and Federal agencies, a unified electricity program that addresses needed improvements in forecasting future electricity needs, assessing power supply/demand alternatives, and providing timely public participation in electricity planning. The program should not be designed to usurp State and utility planning responsibilities. Before the program is finalized, States, utilities, and other interested parties should be afforded the opportunity to comment. DOE should consider using its regional offices to carry out this program. (See p. 47.)

--Undertake projects, whenever possible with the States and utilities, to identify at State, Federal and regional levels, the energy, regulatory, and economic policies which are currently shaping utility policies and suggest what policy changes are needed to carry out national energy objectives. In addition, projects should identify and

provide mechanisms for permitting public participation early in the utility planning process. (See p. 48.)

--Direct the Administrator of ERA to prepare a plan for regulatory interventions to be used whenever DOE's oversight of electricity planning at State and regional levels indicates that the interests of power consumers or the objectives of national energy policy are not adequately protected by the planning and evaluation techniques in use. (See p. 48.)

ERA's program should include development of a manual to communicate the information needed to help carry out the developed program plan and periodic dissemination of information. (See p. 48.)

DOE indicated it would need additional staff to implement GAO's recommendations and authority to obtain needed data. DOE should reallocate staff, where possible, to carry out the recommendations. If reallocation is not feasible and if DOE still believes it lacks sufficient (1) staff and (2) authority to obtain necessary data from States and/or utilities in a timely manner, GAO recommends that DOE seek such resources and authority from the Congress. (See p. 49.)

RECOMMENDATION TO THE NUCLEAR REGULATORY COMMISSION

GAO recommends that the Nuclear Regulatory Commission (NRC), before issuing both a construction permit and an operating license for a nuclear generating facility, review and use as a guide the information developed by ERA's electricity program. NRC should periodically explain to ERA in writing its use of the information and ways, if any, in which the data could be made more useful to NRC. (See p. 49.)

RECOMMENDATION TO THE SECRETARY OF AGRICULTURE

GAO recommends the Secretary of Agriculture require the Administrator of the Rural Electrification Administration (REA), before making financing decisions on electrical generating facilities, to review and use

as a guide the information developed by ERA's electricity program. REA should periodically explain to ERA in writing its use of the information and ways, if any, in which the data could be made more useful to REA. (See p. 50.)

AGENCY COMMENTS

A draft of this report was provided to the Nuclear Regulatory Commission, the National Governors' Association, the Department of Agriculture, the Department of Energy, the Edison Electric Institute, the Federal Energy Regulatory Commission, and the National Association of Regulatory Utility Commissioners for their review and comment. Written comments were received from six organizations and are included in appendixes II through VII. Oral comments were provided by the National Association of Regulatory Utility Commissioners. The report was revised in several sections to reflect technical comments. The agency comments along with GAO's response to them are discussed in chapter 6. In general, points made by the agencies include:

--The Nuclear Regulatory Commission endorsed our recommendations.

--The Department of Energy said it had authority to carry out the recommendations, but believed such an effort would require a significant increase in staff and accessability to data.

--The National Governors' Association agreed with our finding that few States have developed sufficient analytical capabilities to validate utility projections of need, but thought Federal financial assistance was needed.

--Both Department of Agriculture and the Edison Electric Institute raised a general concern that Federal involvement in the decision-making process would be controversial and such a role would place a burden on utilities.

--The Federal Energy Regulatory Commission agreed with our recommendation that to the degree the Department of Energy's comprehensive planning program could encourage more effective regional power planning, it could be helpful, but added that a Federal role should not have the responsibility for approving new construction.

--The National Association of Regulatory Utility Commissioners supports improved Federal/State cooperation and interprets the report as not calling for further Federal intrusion in the State regulatory process.

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ABBREVIATIONS

DOE	Department of Energy
EEI	Edison Electric Institute
ERA	Economic Regulatory Administration
FERC	Federal Energy Regulatory Commission
GAO	General Accounting Office
MW	megawatts
NARUC	National Association of Regulatory Utility Commissioners
NGA	National Governors' Association
NRC	Nuclear Regulatory Commission
REA	Rural Electrification Administration